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# ALPHABETICAL INDEX OF COMMODITIES ON INTERNATIONAL LISTS

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C-O-N-F-I-D-E-N-T-I-A-L

FOREWORD

The commodities included in this Index represent all the items on the International Lists (Embargo, IL I; Watch, IL IV; Munitions, ML; and Atomic Energy, AE) set forth in COCOM Document 3300, 19 December 1958, with revisions to date. These commodities are embargoed to the Sino-Soviet Bloc, except those on the Watch List, exports of which must be reported to COCOM.

The complete description is given for most items; the basic list is referenced for others. The key part of each description is underlined. The items on IL I and IL IV are identified by four digits beginning, respectively with 1 and 4, as 1133, 1760, and 4653; those on ML and AE, by one or two digits with the appropriate prefix, as ML-2, ML-14, AE-5, and AE-13.

Commodities covered only by US unilateral export controls are not included in this Index.

Revisions of this Index will be issued as necessary.

16 June 1959

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<u>Description of Commodity</u>	<u>List and Item No.</u>
<u>Absorbing materials</u> - designed to absorb electromagnetic waves having frequencies greater than $2 \times 10^8$ cycles per second and less than $3 \times 10^{12}$ cycles per second	1561
<u>Acoustic aiming devices</u> (fire control) specially designed for military purposes	ML-5
<u>Aero-engines, military</u>	ML-10
<u>Aero-engines, n.e.s.</u> - See Aircraft item IL 1460 for exceptions	1460
<u>Aerofoil milling, grinding, and shaping machines, and automatic measuring equipment</u> for the manufacture and measurement of gas turbine blades	1080
<u>Aiming devices</u> , specially designed for military purposes and specialized parts, accessories, and attachments	ML-5
<u>Airborne communication equipment, n.e.s.</u> , and specialized parts and components thereof - See list for specifications and exceptions	1501
<u>Airborne direction finding equipment</u> - See list for specifications and exceptions	1501
<u>Airborne equipment</u> designed for use with military aircraft, including refueling equipment, and components and parts thereof	ML-10
<u>Airborne navigation equipment, n.e.s.</u> , and ground and marine equipment for use therewith, and specialized parts and components thereof - See list for specifications and exceptions	1501
<u>Airborne radar equipment</u>	1501
<u>Aircraft, aero-engines, and aircraft equipment</u> , except types in civil use for more than 2 years and other civil types under 90,000 lbs. empty weight - See ML-10 for military coverage	1460
<u>Aircraft, civil, n.e.s.</u>	4460
<u>Aircraft fuel, blending agents for</u> - See "blending agents" for complete description	1789

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<u>Aircraft, military, piloted or pilotless, and components and parts - See list for specifications</u>	ML-10
<u>Aircraft personnel escape devices - catapult and cartridge actuated types</u>	ML-10
<u>Aircraft sheet, plate, or extrusion, machinery for the working or forming of</u>	1081
<u>Aircraft skin, milling machines for the manufacture of</u>	1081
<u>Airfield equipment, except types in normal civil use</u>	1460
<u>Airplane engines, piloted or pilotless, (for military use) and components and parts</u>	ML-10
<u>Airplane spar milling machines</u>	1051
<u>Aliphatic acid esters, dibasic saturated, combined with saturated aliphatic monohydric alcohols and polyglycols - See list for specifications</u>	1781
<u>Alkylates (aviation grade) - high octane blending agents for aviation fuel</u>	1789
<u>Alkylation processing units</u>	4151
<u>Alkyl polysulphide liquid (not water dispersions) polymers of (synthetic rubber)</u>	1801
<u>Alloys, cobalt, containing 6% or more of cobalt, except permanent magnets containing 25% or less cobalt content</u>	1635
<u>Alloys, cobalt, containing 50% or more cobalt; or 19% or more cobalt combined with 14% chromium and less than 1% carbon or more than 3% molybdenum</u>	1648
<u>Alloys, cobalt, n.e.s., containing 19% or more cobalt and 14% or more chromium</u>	4648
<u>Alloys, magnesium base, all crude forms or semi-fabricated forms containing 0.4% or more zirconium or 1.5% or more thorium or 1% or more rare earth metals (cerium mischmetal), and scrap forms covered by this item</u>	1654
<u>Alloys, molybdenum base, containing 60% or more molybdenum</u>	1658
<u>Alloys, nickel base, containing 32% or more nickel - See list for exceptions</u>	1661

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<u>Alloys, nickel based, n.e.s.</u>	4661
<u>Alloys, niobium (columbium) based, containing 60% or more niobium or 60% or more niobium-tantalum</u>	1649
<u>Alloys, steel, containing 50% or more iron and containing molybdenum (10% or more); molybdenum - chrome alloy, (5% or more molybdenum with 14% or more chrome); cobalt (6% or more) except permanent magnetic materials containing less than 25% cobalt; columbium or tantalum (1.5% or more); nickel bearing steels (32% or more alloying elements); and precipitation hardening alloy steels containing 4% or more nickel</u>	1635
<u>Alloys, tantalum based, containing 60% or more tantalum or 60% or more tantalum - niobium</u>	1670
<u>Alloys, titanium based, containing 70% or more titanium</u>	1671
<u>Altimeters, pulse modulated</u>	1501
<u>Altitude simulating climatic conditioning chambers - See list for specifications</u>	ML-19
<u>Ammonium picrate and ammonium perchlorate (military high explosives)</u>	ML-8
<u>Ammunition and all specially designed components and parts thereof for the weapons outlined under artillery and small arms entries (ML-1 and ML-2)</u>	ML-3
<u>Ammunition (Munition List items only), machinery, equipment, checking and test gear for the manufacture of</u>	ML-18
<u>Amphibious and deep water fording military vehicles, and specifically designed components and parts</u>	ML-6
<u>Amplifiers n.e.s., designed to operate at frequencies above 300 Mc/s and tuned, untuned and DC amplifiers - See list for specifications</u>	1521
<u>Amplifiers (electronic or magnetic) isolation or summing types designed for use with resolvers in control equipment</u>	1568
<u>Amplifier equipment (terminal or intermediate) designed to deliver, carry or receive frequencies higher than 16 kc/s into or in line communication transmission equipment</u>	1523

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<u>Amplifier klystrons</u> and specialized parts	1558
<u>Analyzers, radio spectrum</u> , designed to operate at frequencies in excess of 300 megacycles per second and specialized parts therefor	1533
<u>Anti-aircraft protection equipment</u> , i.e., flak suits and parts	ML-13
<u>Anti-friction bearings</u> (ball, roller) and parts - See list for specifications	1601
<u>Anti-"G" suits</u> , associated components and equipment specially designed for military use	ML-10
<u>Armor plate, drilling</u> (other than radial), <u>planing machines</u> and <u>quenching presses</u>	ML-18
<u>Armored equipment</u> , including: armor plates, military helmets, body armor, and flak suits, and specifically designed components and parts	ML-13
<u>Armored or armed vehicles</u> designed for military purposes, including armored railway trains and components and parts	ML-6
<u>Arms</u> (Munitions list items only) - <u>machines, equipment and test gear for the manufacture, checking and examination of arms</u>	ML-18
<u>Arms (small)</u> and specially designed components and parts	ML-1
<u>Aromatization units and plants</u> containing such units for processing lubricants, aviation fuels and components, mineral oil, natural and refinery gases, and petrochemicals	4151
<u>Artillery</u> (guns, howitzers, cannons, mortars, tank destroyers, rocket launchers, military flame throwers, recoilless rifles), and components and parts	ML-2
<u>Automatic cycle equipment, grinding machines for</u>	4027
<u>Automatic, electronic, controlling units</u> (industrial process)	4508
<u>Automatic equipment for controlling diameter on wires and cables</u>	1354
<u>Automatic pilots</u> and parts thereof, except marine type for surface vessels - See list for exception on civil aircraft types	1485
<u>Automatic sizing equipment, grinding machines for</u>	4027

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<u>Automotive vehicles, n.e.s., built to military specifications which differ materially from their normal commercial specifications</u>	1450
<u>Aviation fuels or components thereof, equipment (including plants containing such equipment) for the extraction, production, refining, or treatment of - See list for specifications</u>	4151
<u>Azides of lead and sodium</u>	1701
<u>Ball bearings and ball bearings parts - See list for specifications</u>	1601
<u>Balloons (non-expansive) in excess of 3,000 cubic feet capacity, associated equipment and components</u>	ML-10
<u>Barium styphnate tetrazine and detonating or priming compositions (mixtures) containing this chemical</u>	1701
<u>Batteries, submarine type</u>	ML-9
<u>Bayonets</u>	ML-17
<u>Bearings, anti-friction (ball, roller) and parts - See list for specifications</u>	1601
<u>Beryl (excluding gem grades) and ores</u>	AE 12
<u>Beryllium metal (excluding windows for medical X-ray machines) and alloys containing more than 50% beryllium; oxides and compounds</u>	AE 12
<u>Beryllium oxide (97% or more) suitable for use in refractories, and crucibles, moulds, and pouring rods composed of this material</u>	AE 13
<u>Biological warfare materials, equipment for the dissemination and defense against such materials and components and parts for such equipment</u>	ML-17
<u>Bits, rotary rock drill types</u>	1150
<u>Blending agents, for aircraft fuels, thermal stabilizers, and high octane fuels (aviation grade alkylates, isopentane, and neohexane fuels only)</u>	1789
<u>Blocks, crown or traveling, for oil derricks</u>	4150
<u>Blow cut preventers used for oil well drilling and exploration equipment</u>	4150

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<u>Flowers and compressors</u> , (turbo, centrifugal, and axial flow types), wholly made of or lined with aluminum, nickel, or alloy containing 60% or more nickel and having a capacity of 60 cu. ft. per minute or greater	AE-30
<u>Flowers and compressors</u> , centrifugal and axial flow - See list for specifications	1380
<u>Boilers</u> , marine steam, designed to operate at temperatures of 1100 F (593°C) or above	1441
<u>Bomb sights</u> , components, parts, accessories and attachments	ML-5
<u>Bombing computers</u> , components, parts, accessories and attachments	ML-5
<u>Bombs</u> , guided or unguided, apparatus for the launching and discharging of bombs, and specifically designed components and parts for the bombs and apparatus described above	ML-4
<u>Bombs</u> , machinery, equipment, and gear for the manufacture of - See interpretative note for coverage	ML-18
<u>Boring and turning mills</u> (vertical), automatic cycle types	4001
<u>Boring machines</u> for jet engine compressor cores	1086
<u>Boring machines</u> , jig, with tables possessing any traverse exceeding 44 inches	1002
<u>Boron compounds and mixtures</u> , including boric acids- See list for specifications	1715
<u>Boron metal and minerals</u> (borax), all types	1715
<u>Bottom hole pumps</u> used for oil well drilling and exploration	4150
<u>Brass fabrications</u> for primer anvils	ML-16
<u>Breathing equipment</u> (pressurized) for use in military aircraft	ML-10
<u>Broaching tools</u> , external surface, designed for the production of jet engine blades and discs	1087
<u>Broaching tools</u> , grinding machines for	4027
<u>Bronze fabrications</u> for primer anvils	ML-16
<u>Bullet cups</u> (gilded metal, clad steel), fabrications for	ML-16

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<u>Bullets, machinery, equipment and gear for the manufacture of</u> - See intrepretative note for coverage	ML-18
<u>Cables - coaxial type</u> (including submarine cables) designed for telecommunication purposes (including radar), except those types commonly used for domestic radio and television receivers	1525
<u>Cable, communications type</u> , containing more than one pair of conductors, and any conductor exceeding 0.9 mm in diameter - See list for exceptions and conditions governing this entry	1526
<u>Cables, buoyant, electric conducting type</u> , suitable for sweeping magnetic mines	1430
<u>Cable making machinery</u> designed for making multipair electric cable for telecommunication purposes - See list for specifications	1353
<u>Cable making machinery</u> designed for making coaxial cables - See list for specific types	1354
<u>Cameras, air reconnaissance and other cameras</u> designed and/or used for military purposes, and associated equipment - See list for specifications	ML-12
<u>Cameras, high speed</u> - See list for specifications	1585
<u>Cannon</u> and specially designed components and parts	ML-2
<u>Capacitors, tantalum electrolytic, n.e.s.</u>	1562
<u>Carbines</u> and specially designed components and parts	ML-1
<u>Carbon black furnaces</u>	4350
<u>Carnotite and other uranium ores</u>	AE 1
<u>Cartridge link, fabrications for</u>	ML-16
<u>Cartridge strip, rolled brass</u>	ML-16
<u>Cartridges, machinery, equipment and test gear for the manufacture of</u> - See intrepretative note for coverage	ML-18
<u>Casinghead and christmas tree assemblies</u> used in oil well drilling and exploration equipment	4150

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<u>Casting machines, centrifugal</u> , capable of casting tubes 6 ft or more in length with wall thickness of 2 in. and over	ML-18
<u>Castings</u> (steel and alloy) for guns and arms	ML-16
<u>Catalytic cracking or reforming units</u>	4151
<u>Catapults</u> for use on aircraft carriers or other vessels of war	ML-9
<u>Catapults and cartridge activated devices</u> utilized in emergency escape of personnel from aircraft	ML-10
<u>Cathode ray oscilloscopes</u> with band width greater than 12 mc per second - See list for other specifications	1584
<u>Cathode-ray tubes</u> - See list for specifications	1541
<u>Cementing equipment</u> for oil well drilling or exploration	4150
<u>Centrifugal counter-current solvent extractors</u> designed for the extraction of radioactive substances	1106
<u>Centrifugal testing apparatus or equipment</u> - See "Testing apparatus..." for more complete description	1576
<u>Centrifuges</u> capable of the enrichment or separation of isotopes, made of or lined with aluminum, nickel or an alloy containing 60% or more nickel, with a peripheral speed of 1000 ft per second or more; and centrifugal bowls made of above materials	AE-29
<u>Ceramic envelope covered tubes</u>	1558
<u>Chemical equipment for the conversion of nitrogen tetroxide to nitric acid</u> of 98 percent concentration or higher, or for the concentration of nitrogen tetroxide and/or nitric oxides or mixtures thereof	1101
<u>Chemical warfare agents and equipment for the dissemination and defense against</u> such agents and components and parts for such equipment	ML-7
<u>Chlorine trifluoride</u>	AE-15
<u>Christmas tree assemblies</u> used in oil well drilling and exploration	4150
<u>Civil aircraft, n.e.s.</u>	4460
<u>Climatic Conditioning chambers</u> - See list for specifications	ML-19

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<u>Coaxial cable making machinery</u> - See list for specifications	1354
<u>Coaxial-type cables</u> (including submarine cable) designed for telecommunication purposes, including radar, except those types commonly used for domestic radio and television receivers	1525
<u>Cobalt steel alloys</u> containing 50% or more iron and 6% or more of cobalt, except permanent magnets containing 25% or less cobalt content	1635
<u>Cobalt alloys</u> containing 50% or more cobalt; or 19% or more cobalt combined with 14% chromium and less than 1% carbon or more than 3% molybdenum	1648
<u>Cobalt alloys, n.e.s.</u> , containing 19% or more cobalt and 14% chromium in combination, and scrap thereof	4648
<u>Cobalt compounds</u> containing 40% or more cobalt	1720
<u>Cobalt compounds, n.e.s.</u> - See list for exceptions	4720
<u>Cobalt metals and raw materials</u> including white and red alloys	1648
<u>Cobalt or molybdenum valves, cocks and pressure regulators</u> and parts therefore of 50% purity, either separately or combined	1133
<u>Cocks, valves, and pressure regulators, n.e.s.</u> , designed to operate at temperatures below 130°C or incorporating materials and parts as specified under "pressure regulators..."	1133
<u>Columbium and/or tantalum steel alloys</u> , containing 50% or more iron and 1.5% columbium and or tantalum	1635
<u>Columbium (niobium) raw materials, metals and columbium based alloys</u> (See list for specifications) and scrap forms covered by this item	1649
<u>Cementing equipment</u> used for oil well drilling exploration	4150
<u>Communication and detection equipment</u> of a kind using infra-red radiation or ultrasonic waves; and specialized parts therefore	1502
<u>Communication cable</u> (including submarine cable) - See list for specifications and exceptions	1526
<u>Communication equipment</u> designed to provide secrecy facilities on either voice, telegraph line or radio communication circuits other than those utilizing frequency inversions or band scrambling techniques	1572

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<u>Communication equipment</u> employing tropospheric, ionospheric or meteoric scatter phenomena and specially designed sub-assemblies, parts and test equipment therefor	1503
<u>Communication equipment</u> specially designed for use in aircraft and specialized parts and components therefore - See list for exceptions	1501
<u>Communication transmission equipment</u> , line type, and specialized components, accessories and sub-assemblies - See list for specifications and exceptions	1523
<u>Compasses, gyroscopic equipment</u> and specially designed parts and components - See list for specifications	1485
<u>Compressors and blowers</u> , (turbo, centrifugal, and axial-flow types), wholly made of or lined with aluminum, nickel, or alloy containing 60% or more nickel	AE-30
<u>Compressors or blowers</u> , centrifugal and axial flow - See list for specifications	1380
<u>Compressors and blowers, n.e.s.</u>	4380
<u>Compressor core boring machines and/or compressor turning machines</u> - jet engines type compressors only	1086
<u>Computers</u> , electronic (except business type machines)	1565
<u>Condenser tissue</u> (synthetic film for dielectric use) of 0.0015 in. (0.038 mm) or less capable of use in condensers covered by IL 1560	1920
<u>Construction equipment</u> built to military specifications, specially designed for airborne transport	1325
<u>Containers</u> , jacketed only, of 500 gal. capacity or over, for the storage or transportation of liquid nitrogen, oxygen, hydrogen, ozone, helium, and argon	1145
<u>Control equipment</u> , automatic, for controlling the diameter or eccentricity of extruded dielectric on wire and cable	1354
<u>Control equipment</u> , electronic type, e.g. synchros, resolvers, potentiometers etc. - See list for specifications	1508
<u>Control equipment for machine tools</u> (cutting and forming, electronic closed loop feed-back type)	1091
<u>Control units</u> , electronic automatic types. See electronic automatic controlling units for complete discription	4508

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<u>Converters</u> , liquid oxygen, used for aircraft and missiles	ML-10
<u>Copper munition components</u> including copper rotating bands for shells	ML-16
<u>Coring equipment</u> used in oil well drilling and exploration	4150
<u>Counting equipment</u> (electronic) capable of counting at rates in excess of 1 megacycle per second	1593
<u>Cracking or reforming units</u> (thermal or catalytic), including platforming	4151
<u>Crash helmets</u> , military, for use with aircraft and helicopters	ML-10
<u>Crucibles, moulds, and pouring rods</u> composed of 97% or more by weight of beryllium oxide, magnesium oxide, zirconium oxide, and zirconium oxide stabilized with lime and/or magnesium oxide	AE-13
<u>Crystal signal diodes</u> , excluding photodiodes - See list for specifications	1544
<u>Cutting machines</u> for the sizing of extruded propellants for the production of military explosives	1118
<u>Cyclotetramethylene - tetranitramine</u> (HMX) (military high explosive)	ML-8
<u>Deasphalting units</u> for propane	4151
<u>Dehydration presses</u> used in the production of military explosives	1118
<u>Dehydrogenation units</u> for the processing of lubricants (petroleum based or synthetic), aviation fuels or components thereof, mineral oil, natural or refinery gases, and petro-chemicals.	4151
<u>Delay lines</u> , being specialized parts for pulse modulator equipment as specified under this entry	1514
<u>Dephlegmating, fractionating and rectifying columns</u> for use in processing lubricants, aviation fuels and components, mineral oil, natural or refinery gases, and petro-chemicals	4151
<u>Depth charges</u> and components and parts therefor	ML-4
<u>De-sulpherization units</u> for processing lubricants, aviation fuel or components, mineral oil, natural or refinery gases, and petro-chemicals	4151
<u>Detection and communication equipment</u> of a kind using infra-red radiation or ultrasonic waves, and specialized parts therefor	1502

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<u>Detection devices, magnetic, pressure, and acoustic for underwater detection and controls and components thereof</u>	ML-9
<u>Detonating and priming compositions, specifically: mercury fulminate, lead azide, lead styphnate, lead triocyanate, lead dinitroresorcinatate, barium styphnate tetrazine, and sodium azide, and detonating or priming compositions (mixtures) containing one or more of these chemicals</u>	1701
<u>Deuterium and compounds, mixtures, and solutions containing deuterium, including heavy water and heavy paraffin, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1: 5000 by number</u>	AE-5
<u>Deuterium oxide production and/or concentration equipment</u>	1112
<u>Dewaxing units (including centrifugal and solvent dewaxing units such as methylethyl ketone and propane units) used in the production, refining, or treatment of any of the following: lubricants, aviation fuels and components, mineral oil, natural or refinery gases, and petrochemicals</u>	4151
<u>Diamond grinding wheels, sticks, hones, and laps</u>	4387
<u>Diamonds suitable for industrial use, including splints and borts</u>	4385
<u>Diamond wire drawing dies</u>	4386
<u>Dichlorotetrafluoroethane (a fluorinated hydrocarbon)</u>	AE-17
<u>Dielectric synthetic film (condensor tissue) of 0.0015 in. (0.038 mm) or less in thickness capable of use in condensers covered by IL 1560</u>	1920
<u>Die-sinking machines used for profiling and duplicating</u>	4090
<u>Dies, diamond wire drawing types only</u>	4386
<u>Diesel engines, 50 h.p. and over, whose non-magnetic content exceeds 50% of their total weight</u>	1255
<u>Diesel motors (1500 h.p. and over with a rotary speed of 700 r.p.m.) specially designed for submarines, and accessories, components, parts, and attachments therefor</u>	ML-9
<u>Diethylene triamine</u>	1721
<u>Dimethyl hydrazine (unsymmetrical)</u>	1721

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<u>Diodes, (crystal signal), point contact type, suitable for use at frequencies higher than 300 mc/s, and specialized parts</u>	1544
<u>Diodes, (crystal signal), junction type, where germanium is not the basic semi-conductor, and specialized parts</u>	1544
<u>Diodes, (crystal signal), junction type (germanium) suitable for frequencies higher than 50 mc/s, and specialized parts</u>	1544
<u>Diodes, crystal (embargoed types only) manufacturing machinery, equipment and test gear, and automatic or semi-automatic assembling machinery, equipment and test gear</u>	1355
<u>Diodes, photo (photo transistors)</u>	1548
<u>Diortho tolyl-urethane, a stablizer for explosives</u>	1703
<u>Diphenylamine</u>	1703
<u>Diphenylurea, unsymmetrical (NN-diphenylura)</u>	1703
<u>Direction finding equipment, airborne - See list for specifications</u>	1501
<u>Direction finding equipment, n.e.s. - See list for specifications</u>	4501
<u>Diving and underwater swimming apparatus (self contained) - See list for specifications</u>	ML-17
<u>Dosimeters capable of measuring in one exposure dosages above 5 roentgens excepting those designed specially for use with medical radiation equipment</u>	AE-20
<u>Drill bits, rotary rock, having cones or section which rotate freely and independently of the rotation of the body of the bit</u>	1150
<u>Drills, hollow for deep hole drilling machines in which the coolant passes through the drill</u>	1006
<u>Drilling equipment (oil well) - See list for specific types</u>	4150
<u>Drilling machines, deep hole types, in which the coolant passes through the drill</u>	1006
<u>Duplicating and profiling machinery, n.e.s. (planing, shaping, milling or grinding), including die-sinking machines</u>	4090
<u>Duosol solvent processing units</u>	4151

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<u>Echo sounding devices</u> specially designed for military purposes, controls, and components thereof	ML-9
<u>Elastomeric material, fluorinated</u> , including fluorinated silicone rubber, and such organic intermediates for their production as contain 10% or more of combined fluorine	1801
<u>Electric furnances</u> specially designed for the recovery of titanium or zirconium from scrap	1125
<u>Electric motors</u> over 1000 h.p., reversing type, liquid cooled, and totally enclosed, for use in submarines	ML-9
<u>Electric power generating units</u> , mobile types of over 5,000 KW	1266
<u>Electric power generating units</u> of $\frac{1}{2}$ KW or over, up to and including 5,000 KW	4265
<u>Electrolytic cells</u> for the production of fluorine	AE-31
<u>Electromagnetic ion separators</u> , including mass spectrographs and mass spectrometers for any purpose	AE-22
<u>Electromagnetic wave absorbers</u> , materials designed or manufactured for use with absorbers of waves exceeding $2 \times 10^8$ cycles per second and less than $3 \times 10^{12}$ cycles per second	1561
<u>Electromagnetic waveguides</u> and components thereof as follows: ferrite waveguide components for use at all frequencies; rigid waveguides for use at frequencies in excess of 12,500 Mc/s; flexible waveguides of all types	1537
<u>Electronic aiming devices</u> (fire control) specifically designed for military purposes	ML-5
<u>Electronic assemblies</u> , equipment specially designed for the production of - See list for specific types	1566
<u>Electronic automatic controlling units</u> designed to regulate flow by continuous action as a function of one or more industrial process variables and capable of operating a regulating valve by pneumatic, hydraulic or electric means in response to an AC or DC voltage produced by a measuring unit in the process stream	4568
<u>Electronic components</u> designed for and/or capable of reliable performance in relation to their electrical and mechanical characteristics and maintaining their design service lifetime while operating at temperatures extending from below minus $45^{\circ}\text{C}$ to above $100^{\circ}\text{C}$ , or at ambient temperatures of $200^{\circ}\text{C}$ or higher	1560



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<u>Electronic computers</u> (except business type machines)	1505
<u>Electronic closed loop feed back controls</u> for machines tools (cutting and forming), continuous correcting type, and machine tools incorporating above - See list for specifications	1091
<u>Electronic equipment, specially designed to produce electronic assemblies</u> by (a) depositing or printing on insulating panels, including plates or wafers; or otherwise forming in situ, component parts other than basic wiring; or (b) automatically inserting and/or soldering components on insulating panels including plates or wafers, to which wiring is applied by printing or other means.	1506
<u>Electronic equipment specially designed for military use</u> , and components and parts therefor	ML-11
<u>Electronic instruments</u> operating at frequencies in excess of 300 Mc/s	1529
<u>Electronic navigation and location finding aids</u> designed for military use	ML-11
<u>Electronic sorting apparatus</u> for automatically sorting electronic components in respect to their electrical characteristics	1530
<u>Electronic storage tubes and image converters</u> (See "image converters...")	1555
<u>Electronic valve-making machinery</u> , equipment and test gear (including components or sub-assemblies) designed for the manufacture and/or automatic or semi-automatic assembly of embargoed electronic valves, transistors and crystal diodes	1355
<u>Electronic valves</u> (tubes) and specialized parts (e.g. high frequency types) - See list for special types	1558
<u>Engines, diesel</u> , (50 h.p. and over), whose non-magnetic content exceeds 50% of their total weight	1255
<u>Engines, diesel</u> (1500 h.p. and over) with a rotary speed of 700 RPM, specially designed for submarines, and accessories, components, parts and attachments therefor	ML-9
<u>Engines, jet, machines specially designed for the manufacture of</u> - See list for specifications	1086

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<u>Esters of diabasic saturated aliphatic acids combined with either saturated aliphatic monohydric alcohols or polyglycols and all fluoro-alcohol esters - See list for specifications and exceptions</u>	1781
<u>Ethyl and methyl centralites: stablizers for explosives</u>	1703
<u>Ethyl unsymmetrical diphenylurea (ethyl NN-diphenylurea) - a stabilizer for explosives</u>	1703
<u>Ethyl phenyl urethane - a stabilizer for explosives</u>	1703
<u>Ethylene dinitramine (military high explosive)</u>	ML-8
<u>Exploration equipment (oil well) - See list for specific types</u>	4150
<u>Explosives stabilizers - See list for specified items</u>	1703
<u>Explosives (military) production equipment, complete installations and specialized components - See list for interpretive note covering key components</u>	1118
<u>Explosives, high, military type - See list for specific coverage</u>	ML-8
<u>Extractors (centrifugal counter-current solvent extractors), specifically designed for the extraction of radioactive substances</u>	1106
<u>Extrusion (aircraft) working or forming machinery</u>	1081
<u>Extrusion presses used in the manufacture of small arms, cannon, and rocket propellants</u>	1118
<u>Fabrications (brass and bronze) for primer anvils, and fabrications for bullet cups (gilding metal clad steel), cartridge link, primer cap, shell rotating band</u>	ML-16
<u>Feed back controls (electronic), closed loop types for machine tools - See list for specifications</u>	1091
<u>Ferro-columbium (ferro-niobium) and ferro-columbium-tantalum (ferro-niobium tantalum)</u>	1649
<u>Ferro-molybdaenum</u>	1658
<u>Ferro-tantalum and ferro-tantalum-niobium</u>	1670
<u>Fieldistors (semi-conductor amplifying devices related to transistors)</u>	1545

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<u>Film processing and printing machines</u> designed specifically for military purposes	ML-12
<u>Film recording devices</u> designed and used for military purposes, and equipment designed to make the recorded information militarily useful, and components and parts	ML-12
<u>Film</u> , synthetic, for dielectric use (condenser tissue) of 0.0015 in. or less in thickness capable of use in condensers covered by Item 1560	1920
<u>Filtration units</u> (including percolation filtration, contact filtration and filtrol fractionation units) for use in the processing of lubricants, aviation fuels or components, mineral oil, natural or refinery gases, and petrochemicals	4151
<u>Fire control equipment</u> and components, accessories, parts, and attachments - See list for specifications	ML-5
<u>Fish and/or whale finding equipment</u> (underwater), and specialized components - See Interpretative Note # 2 for exceptions	1510
<u>Fishing vessels and hulls</u> designed for speeds of 17 knots or over when in full load condition	1416
<u>Fissionable materials</u>	AE-1
<u>Flak suits</u> and parts	ML-13
<u>Flame throwers</u> (military) and specifically designed components and parts	ML-2
<u>Flight instrument systems</u> , integrated for aircraft, including gyro-stabilizers and automatic pilots - See list for exceptions	1485
<u>Flow regulators</u> , continuous electronic automatic types - See "electronic automatic controlling units ..." for complete definition	4568
<u>Fluorinated hydrocarbons</u> - See list for specifications	AE-17
<u>Fluorinated silicone rubber</u> and other fluorinated elastomeric material and such organic intermediates for their production as contain 10% or more of combined fluorines	1801
<u>Fluorine</u>	AE-14
<u>Fluorine liquefying equipment</u>	1110
<u>Fluorine producing electrolytic cells</u>	AE-31

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<u>Fluoro-alcohol esters</u> - See list for exceptions	1781
<u>Forging hammers</u> having a falling weight exceeding 10 tons, "See hammers..." for specific coverage of steam, air, mechanical, counterblow, and horizontal impact hammers	1070
<u>Forgings</u> (rough steel forgings) for guns and arms	ML-16
<u>Forming, pre-forming and shaping machinery</u> specially designed for the manufacture of gas turbine blades	1080
<u>Fractionating, rectifying and dephlegmating columns</u> for use in processing lubricants, aviation fuels or components, mineral oil, natural or refinery gases, and petrochemicals	4151
<u>Fractionation (filtrol) units</u> - See "filtration units...."	4151
<u>Frequency measuring equipment</u> and frequency standards with an accuracy better than 0.00001%	1529
<u>Fuel thickeners, military</u> , including but not limited to compounds (e.g. octal) or mixtures of such compounds (e.g. napalm), which when added to petroleum products provide a gel-type incendiary material for use in bombs, projectiles, flame throwers or other implements of war	ML-4
<u>Fuels, chemical base</u> , high energy solid or liquid types for military propellants	ML-8
<u>Fuels, jet</u> (aircraft turbine engine fuel) - See list and interpretative Note # 5 for specifications	1770
<u>Fuels, liquid</u> for jet aircraft use, including petroleum, containing high energy components or compounds thereof having a gross calorific value of not less than 13,000 calories per gram	1770
<u>Fulminate of mercury</u>	1701
<u>Furfural solvent extraction units</u>	4151
<u>Furnaces, carbon black</u>	4350
<u>Furnaces, electric</u> , specially designed for the recovery of titanium and/or zirconium from scrap	1125
<u>Furnaces, vacuum</u> , designed to operate at pressures lower than 0.1 mm of mercury and at temperatures higher than 1100°C	AE-28

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<u>Gas (liquefied) containers</u> , jacketed only, for the storage or transportation of liquefied gases, including mobile units of 500 gallons capacity or over, designed for liquid nitrogen, oxygen, hydrogen, ozone, helium or argon	1145
<u>Gas (natural or refinery)</u> , equipment including plants containing such equipment for the extraction, production, refining or treatment of - See list for specifications	4151
<u>Gas liquefying equipment</u> as follows:	1110
(a) operating at 300 p.s.i. or over and producing one ton or more liquid gas per day - See list for exceptions.	
(b) liquid fluorine producing equipment	
(c) equipment for the separation of helium from natural gases	
<u>Gas projectors</u> , military, and specifically designed components and parts	ML-2
<u>Gas turbine blades, machines and equipment</u> specially designed for the manufacture or measurement of - See list for examples	1080
<u>Gasoline</u> , aviation grades, 100 octane and over	4773
<u>Gasoline</u> , wide cut types, capable of use as jet fuels - See appendix to list for specifications	1770
<u>Gear grinding machines</u> , generating type, of 30 inches work diameter and above	1088
<u>Gear making and/or finishing machinery</u> capable of the production of gears of a module finer than 0.5 mm. (diametral pitch finer than 48)	1088
<u>Gear making machinery</u> , n.e.s. (all machinery designed for the manufacture and/or finishing of machine cut gears)	4088
<u>Generating units</u> , electric mobile types of over 5000 KW	1266
<u>Generators</u> , induction rate, for use with control equipment - See list for specifications	1568
<u>Germanium compounds</u> , n.e.s., including germanium dioxide	4753
<u>Germanium</u> having a resistivity of 50 ohm per cm or better	1653
<u>Germanium</u> , n.e.s.	4653
<u>Germanium purifying and processing equipment</u> , except equipment designed for zone purification	1360

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<u>Gilding metal clad steel bullet cups, fabrication for</u>	ML-16
<u>Gilding metal clad steel munitions components and material</u>	ML-16
<u>Graphite, artificial</u> , in the form of blocks or rods from which a cube of 2 inches side or greater can be cut, and having a boron content of one part per million or less - See list for specifications	AE-34
<u>Greases, silicone</u> , lubricating type, capable of operating at temperatures of 180°C or higher and having a drop point to 220°C or higher	1755
<u>Grenades</u> , including smoke grenades, and all specially designed components or parts	ML-4
<u>Grinders</u> , contour profile types	4019
<u>Grinders, rotor</u> , for jet engine manufacture	1086
<u>Grinding heads</u> designed for operations at speeds in excess of 80,000 r.p.m., and machines designed for their utilization	1016
<u>Grinding machines</u> , specially designed for the manufacture of gas turbine blades	1080
<u>Grinding machines</u> for gear production, generating types of 36 inches work diameter or above	1088
<u>Grinding machines</u> utilizing embargoed "grinding heads"	1016
<u>Grinding machines, jig</u> , with tables possessing any traverse exceeding 44 inches	1002
<u>Grinding machines (profiling and duplicating), n.e.s.</u>	4090
<u>Grinding machines, roll</u> (machines fitted with, or capable of being fitted with, cambering device only)	4023
<u>Grinding machines</u> for use with broaching tools, auto cycle or auto sizing equipment	4027
<u>Ground equipment, n.e.s.</u> , and parts designed specifically for military aircraft use	ML-10
<u>Ground equipment, n.e.s.</u> , developed solely or used mainly for aircraft, except ground or airfield equipment of types in normal civil use	1460
<u>Guanidine nitrate</u>	1742

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<u>Guidance equipment for fire control operations, and components, parts, and attachments for such equipment</u>	ML-5
<u>Guidance, tracking and remote control equipment, n.e.s., suitable for use with aircraft (piloted or pilotless) and weapons (guided or unguided)</u>	1518
<u>Guided missiles and specifically designed components and parts, including guided missiles power plants</u>	ML-4
<u>Gun barrel rifling, broaching, and trepanning machinery</u>	ML-18
<u>Gun laying (fire control) equipment, components, parts, accessories and attachments</u>	ML-5
<u>Guns (artillery) and components and parts for same</u>	ML-2
<u>Guns, machinery, equipment and test gear for the manufacture of - See interpretative note for coverage</u>	ML-18
<u>Guns, self propelled types, and specially designed components and parts</u>	ML-6
<u>Gun carriers and tractors specifically designed for towing artillery and specially designed components and parts</u>	ML-6
<u>Gun mounts, naval</u>	ML-9
<u>Gun perforating equipment used for oil well drilling and exploration</u>	4150
<u>Gun sights specially designed for military purposes and components and parts</u>	ML-5
<u>Gyromagnetic compasses, and components and parts thereof - See list for exceptions</u>	1485
<u>Gyroscopes of high precision and miniaturized gyroscopes which are designed for use in ship inertia navigation systems or in the guidance systems of weapons and military aircraft, and specially designed parts and components</u>	1485
<u>Gyroscopic aiming devices (fire control) specially designed for military purposes, and components and parts thereof</u>	ML-5
<u>Gyro compasses (North seeking only), components and parts thereof - See list for specifications</u>	1485
<u>Gyro-stabilizers for use in integrated flight instrument systems - See list for exceptions granted civil aircraft types</u>	1485

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<u>Gyro - stabilizers, n.e.s., and parts thereof, except those for stabilizing an entire surface vessel</u>	1485
<u>Half tracks (military type), and components and parts thereof</u>	ML-6
<u>Halogenated silicone fluids</u>	1755
<u>Hammers, forging, having a falling weight exceeding 10 tons</u>	1070
<u>Hammers, forging, counter-blow, of rated sizes of 25,000 kgs/meters or more</u>	1070
<u>Hammers, forging, steam, air or mechanical, of rated sizes exceeding 10 tons</u>	1070
<u>Hammers, forging, horizontal impact, hydraulically actuated, 10,000 foot pounds or over rated size</u>	1070
<u>Heat exchangers (tubular) and components thereof (except aluminum tubing) with flow contact surfaces made of aluminum, nickel, titanium, zirconium or alloys containing 60% or more nickel, and designed to operate at pressures of 300 p.s.i. and above</u>	AE-33
<u>Heavy paraffin and heavy water in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000 by number</u>	AE-5
<u>Helicopters, specially designed for military purposes and associated equipment, components and parts</u>	ML-10
<u>Height, position and range finders specially designed for military purposes, and specially designated components, parts, and accessories</u>	ML-5
<u>Helium separation equipment, for the separation of helium from natural gases</u>	1110
<u>Helmets, military, other than aircraft crash types</u>	ML-13
<u>Helmets, crash types, for military aircraft use</u>	ML-10
<u>Hexanitrodiphenylamine (military high explosive)</u>	ML-8
<u>High frequency electronic instruments, operating at frequencies above 300 mc/s, except radio spectrum analysers - See IL 1533</u>	1529
<u>High octane blending agents for aircraft fuels</u>	1789
<u>HMX (cyclotetramethylene - tetranitramine) - (military high explosive)</u>	ML-8

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<u>Hose</u> , rotary vibrator hose and rotary drilling hose, used in oil well drilling and exploration, high pressure types only	4150
<u>Howitzers</u> and specially designed components and parts thereof	ML-2
<u>Hulls</u> for embargoed fishing vessels (i.e. 17 knots), embargoed seagoing vessels including coasters (i.e. 20 knots), and hulls made wholly or primarily of non-magnetic materials	1416
<u>Hydraulic fluids, synthetic</u> , having a viscosity of not more than 4,000 centistokes at -54°C and not less than 1.5 centistokes at 150°C	1702
<u>Hydraulic fluids, petroleum based</u> , possessing all of the following characteristics: (a) kinematic viscosity of 4.0 centistokes or greater at 210°F (98.9°C); (b) pour point of -30°F (-34.4°C) or lower; (c) viscosity index (V.I.) of 130 or higher	1793
<u>Hydraulic presses</u> with total rated pressures of over 5,000 tons (long or metric)	1072
<u>Hydrazine</u> ; hydrazine hydrate; hydrazine nitrate; diethyl triamine; and unsymmetrical dimethyl hydrazine	1731
<u>Hydrocarbons, fluorinated</u> - See list for coverage	AE-17
<u>Hydrogen peroxide</u> (50% strength or over)	1732
<u>Hydrogen thyratrons</u> of any rating	1559
<u>Hydrogenation equipment</u> (and plants containing such equipment) designed to operate at 360 p.s.i. or over (except equipment specially designed for the production of ammonia or methanol) and used in the processing of lubricants, aviation fuels or components, mineral oil, natural or refinery gases, and petrochemicals	4151
<u>Ice breakers</u> of 10,000 shaft h.p. or over	1405
<u>Image converters and electronic storage tubes</u> , including memory transformers of radar pictures and ruggedized vidicon-type tubes (excluding commercial television broadcasting camera tubes and commercial standard X-ray amplifier tubes)	1555
<u>Incendiary materials (gel-type)</u> , components which when used in combination with petroleum products produce gel-type incendiary materials	ML-4
<u>Induction hardening machines</u> for tank turret rings and sprockets	ML-18

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<u>Induction rate generators</u> for electronic control equipment - See list for specifications	1568
<u>Inertial platforms</u> (gyroscopic device) for use in guided missiles and components, parts, accessories and attachments	ML-5
<u>Infra-red equipment</u> (military) and specialized components therefor, n.e.s.	ML-15
<u>Infra-red radiation equipment</u> for communications and detection, and specialized parts therefor	1502
<u>Insulation applying machinery</u> for multipair electric telecommunications cables, n.e.s.	1353
<u>Insulation applying machinery</u> for applying separators to air spaced coaxial electric cable	1354
<u>Instrument systems, integrated flight type</u> for aircraft, including gyro stabilizers and automatic pilots - See list for exceptions permitted for civil aircraft types	1485
<u>Ion microscopes</u> having a resolving power better than 10 angstrom units	1579
<u>Ion separators, electromagnetic</u> , including mass spectrographs and mass spectrometers, for any purpose	AE-22
<u>Ion sources, positive</u> , suitable for use in mass spectrographs and spectrometers and capable of handling uranium hexafluoride	AE-24
<u>Isomerization units</u> for the processing of lubricants, aviation fuels or components, mineral oil, natural or refinery gases and petrochemicals	4151
<u>Isopentane</u> (a high octane blending agent for aircraft fuel)	1789
<u>Jamming apparatus</u> (i.e., apparatus specially designed to jam or interfere with radio reception) and specialized parts therefor	1507
<u>Jet engine blades and discs, external surface broaching tools</u> specially designed for the construction of	1087
<u>Jet engines, machines</u> specially designed for the manufacture of, as follows: compressor core boring machines, compressor and turbine disc turning machines, and rotor grinders	1086
<u>Jet fuel</u> (aircraft turbine engine fuel) - See list and interpretive note # 5 for specifications	1770

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<u>Jig boring and/or grinding machines</u> with tables possessing any traverse exceeding 44 inches	1002
<u>Jigs and fixtures</u> and other metal working implements or accessories for use in manufacture of ammunition, firearms, ordnance and other military stores and appliances	ML-18
<u>Junction type crystal signal diodes</u> and specialized parts in which the basic semi-conductor material is not germanium, or germanium junction diodes for use at frequencies higher than 50 mc/s	1544
<u>Kel-F (polytrifluorochloroethylene) pipe and tubing</u> , and pipe and tubing made of or lined with Kel - F	1142
<u>Kel-F (polytrifluorochloroethylene) valves, cocks or pressure regulators</u> or parts therefor	1133
<u>Kerosene type jet fuel</u> (aircraft turbine engine fuel) - See appendix to list for specifications	1770
<u>Klystrons, amplifier</u> , and specialized parts therefor	1558
<u>Lathes, right angle (T)</u> , specially designed for making gas turbine discs	1042
<u>Lathes, spinning</u> , except those with a spindle drive motor of 25 h.p. or less	1075
<u>Lead azides</u> , lead styphnate, lead triocyanate or lead dinitroresorcinate and detonating or priming compositions (mixtures) containing one or more of these chemicals	1701
<u>Lift trucks, n.e.s.</u> , built to military specifications differing materially from normal commercial specifications	1450
<u>Line communication transmission equipment</u> and specialized components, accessories and sub-assemblies - See list for specifications and exceptions	1523
<u>Linear induction potentiometers</u> (electronic control equipment) - See list for specifications	1568
<u>Liquefied gas storage or transportation containers</u> (jacketed only) including mobile units or 500 gallons capacity or over, designed for liquid nitrogen, oxygen, hydrogen, ozone, helium, and argon	1145
<u>Liquefying equipment for gases</u> - See list for specifications	1110

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<u>Liquid fuel</u> , including petroleum, containing high energy components or compounds thereof, having a gross calorific value of not less than 13,000 calories per gram	1770
<u>Liquid oxygen converters</u> used for aircraft and missiles	ML-10
<u>Lithium isotopes, equipment</u> specially designed for the separation of	AE-18
<u>Lithium metal</u> , compounds, ores, and concentrates - See list for exception permitted for medical lithium compounds	AE-35
<u>Location apparatus</u> (underwater) designed for detecting and/or locating objects by magnetic or acoustic or ultrasonic methods, and components, parts, attachments and accessories - See list for exceptions. Military types covered under ML-9 (Detection Devices)	1510
<u>Lubricants</u> (petroleum based or synthetic), equipment, and plants containing such equipment, for the production, refining or treatment of - See list for specifications	4151
<u>Lubricating greases</u> (silicone) capable of operating at temperatures of 180°C or higher and having a drop point of 220°C or higher	1755
<u>Lubricating oils and greases, synthetic</u> (ester type) - See list for specifications and exceptions	1781
<u>Machine guns</u> and specically designed components and parts	ML-1
<u>Machine tools</u> (cutting and forming), incorporating electronic closed loop feed back controls, continuous correcting type - See list for specifications	1091
<u>Machinery</u> (including lathes, presses, drilling and boring machines, loaders, forging and planing machines) used for examination, manufacture, testing and checking of <u>munition list items</u>	ML-18
<u>Magnesium base alloys</u> , crude or semi-fabricated, containing 0.4% or more zirconium, or 1.5% or more thorium, or 1% or more rare earth metals (cerium mischmetal) and scrap forms covered by this item	1654
<u>Magnesium oxide</u> (97% or more by weight) suitable for use in refractories and crucibles, moulds and pouring rods composed of the foregoing	AE-13
<u>Magnetic compasses</u> , transmitting types, designed for submarines, and components and parts thereof	1485

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<u>Magnetic metals</u> of all types and forms possessing any of a group of listed specifications, including thickness, permeability, remanence, energy potential and core loss	1631
<u>Magnetic recorders and/or reproducers</u> (other than those designed for voice or music), specialized recording media, parts and components therefor	1572
<u>Magnetometers</u> of the following types: (a) fluxgate, (b) electron beam sensing, (c) paramagnetic, (d) nucleonic, and specialized parts therefor	1571
<u>Magnets</u> , permanent, all types, n.e.s.	4631
<u>Marine depth sounders</u> (underwater) and specialized components - See list for exceptions	1510
<u>Marine steam boilers</u> designed to operate at temperatures of 1100°F (593°C) or above	1441
<u>Mass spectrographs and mass spectrometers</u> (electromagnetic ion separators) - See list for specifications	AE-22
<u>Measuring equipment</u> used in the measurement of gas turbine blades - See list for examples	1080
<u>Measuring equipment</u> (frequency) and frequency standards with an accuracy better than 0.00001%	1529
<u>Measuring (time interval) and counting equipment</u> - See list for specifications	1593
<u>Mechanical presses</u> with total rated pressures of over 5,000 tons	1072
<u>Mechanical presses</u> with rated pressures between 1000 and 5000 tons	4072
<u>Memory transformers</u> of radar pictures	1555
<u>Mercury fulminate</u> , and detonating and priming compositions containing this chemical	1701
<u>Mesh</u> , woven wire, composed of wire containing 95% or more nickel and containing 60 or more wires per linear centimeter	AE-10
<u>Methyl unsymmetrical diphenylurea</u> (methyl-NN-diphenylurea) (stabilizer for explosives)	1703
<u>Microflash equipment</u> (photographic) - See "photographic microflash..." for specifications	1585

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<u>Microscopes</u> , ion type, having a resolving power better than 10 Angstrom units	1579
<u>Microsyns</u> - instruments rated to have the same characteristics as embargoed synchros (covered by electronic control equipment)	1508
<u>Military arms, ammunition, appliances and machines covered by Munitions List items, machinery, equipment and gear specially designed for their examination, manufacture, testing and checking</u>	ML-18
<u>Military electronic equipment</u> , components and parts therefor	ML-11
<u>Military explosives, installations</u> for the production of, and specialized components - See list for interpretive note covering key components	1118
<u>Military half tracks</u> and specifically designed components and parts	ML-6
<u>Military smoke, gas and pyrotechnic projectors</u> , and specifically designed components and parts	ML-4
<u>Military television sighting units</u> for use in aircraft fire control systems, and components, accessories and attachments - See interpretative note	ML-5
<u>Military vehicles, n.e.s.</u> , and specifically designed components and parts - See list and interpretative notes for specifications	ML-6
<u>Military fuel thickeners</u> - See "fuel thickeners..." for examples of this item	ML-4
<u>Military training equipment</u> , and specifically designed components, parts, attachments, and accessories	ML-14
<u>Millers</u> , airplane spar	1051
<u>Milling (planer) machines</u> and combination planer and planer milling machines for work pieces 72 inches wide and over or 20 feet long and over	4052
<u>Milling machines</u> , specially designed for the manufacture of gas turbine blades	1080
<u>Milling machines</u> , specially designed for the milling of aircraft skin	1081
<u>Milling machines</u> (profiling and duplicating), n.e.s.	4090

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<u>Mineral oil equipment, and plants containing such equipment, for the extraction, production, refining or treatment of - See list for specifications</u>	4151
<u>Mines and apparatus, and devices for the handling, control, activation, laying, sweeping, discharging, detonation or detection of such apparatus and all specifically designed components and parts therefor</u>	ML-4
<u>Mine sweeping cable, buoyant electric conductors, suitable for sweeping magnetic mines only</u>	1430
<u>Missile tracking and guidance equipment and specifically designed components, parts, accessories and attachments</u>	ML-5
<u>Missiles, guided or unguided, and apparatus and devices for the handling, control, activation, launching, discharging, detonation or detection of such apparatus, and all specifically designed components and parts therefor</u>	ML-4
<u>Mobile containers (jacketed only) for the transportation or storage of liquefied gases, including units of 500 gallons capacity or over designed for nitrogen, oxygen, hydrogen, ozone, helium, and argon</u>	1145
<u>Mobile repair shops, military type, and specifically designed components or parts</u>	ML-6
<u>Modulators and modulator amplifiers specifically designed for "transmitters and transmitter amplifiers..." covered by this item</u>	1517
<u>Modulator gas - discharge tubes - See "thyatron..." for specifications</u>	1559
<u>Modulators, pulse, capable of providing electronic impulses exceeding 150 KW, or of a duration less than 1/10 microsecond, and pulse transformers, pulse forming equipment and delay links being specialized parts of such modulators</u>	1514
<u>Molybdenum steel alloys containing 50% or more iron and 10% or more molybdenum (but 5% or more molybdenum in any alloys containing more than 14% chromium)</u>	1635
<u>Molybdenum metal (including wire, tubing, and platinum clad molybdenum tubing), ferro-molybdenum, and alloys containing 60% or more molybdenum - See list for exception on coverage of wire</u>	1658
<u>Molybdenum disulphide, 86% or higher concentration</u>	1658

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<u>Molybdenum or cobalt valves, cocks or pressure regulators of 50% purity, either separately or combined and parts therefor</u>	1133
<u>Monazite</u> and monazite sand (thorium)	AE-1
<u>Monochlorodifluoromethane</u> (fluorinated hydrocarbon)	AE-17
<u>Mortars</u> (cannon) and all specifically designed components and parts	ML-2
<u>Motors, diesel</u> , 1500 h.p. and over, with rotary speeds of 600 RPM and over, specially designed for submarines	ML-9
<u>Motors, diesel</u> , 50 h.p. and over whose non-magnetic content exceeds 50% of their total weight	1255
<u>Motors, electric</u> , specially designed for submarines, i.e., over 1000 h.p., reversing type, liquid cooled and totally enclosed	ML-9
<u>Motors, servo</u> (control equipment) gear-head or plain, designed to operate at more than 300 cycles per second and/or having torque-to-inertia ratio of 3500 radians per second per second or greater	1568
<u>Moulds, crucibles and pouring rods</u> composed of 97% or more by weight of beryllium oxide, magnesium oxide, or zirconium oxide or composed of zirconium oxide stabilized with lime and/or magnesium oxide	AE-13
<u>Mufflers</u> for firearms (silencers)	ML-18
<u>Multipair electric cable</u> (telecommunications) <u>making machinery</u> - See list for specifications	1353
<u>Munitions components</u> (i.e. fabrications, forgings, etc.) and materials - See list for specifications	ML-16
<u>Munitions list arms, ammunition, appliances and machines, specialized machinery, equipment and gear for the examination, manufacture, testing and checking of these items</u>	ML-18
<u>Napalm</u> and similar mixtures used as military fuel thickeners	ML-4
<u>Natural gas equipment</u> (including plants containing such equipment) for the extraction, production or refining of natural gas - See list for specifications	4151
<u>Naval gun mounts</u>	ML-9
<u>Navigational aids, n.e.s.</u> , - See list for specifications	4501

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<u>Navigation and location finding aids</u> (electronic) used for military purposes	ML-11
<u>Navigation equipment</u> (airborne) and specially designed components and parts, and ground and marine equipment for use therewith - See list for specifications	1501
<u>Neohexane</u> - a blending agent for high octane aircraft fuels	1789
<u>Nets for protection against submarines and torpedoes</u>	ML-9
<u>Nickel, metal and nickel based alloys, n.e.s., and scrap forms</u> covered by this item	4661
<u>Nickel-bearing steel alloys, n.e.s., containing a total of 32% or more alloying elements</u> - See list for exceptions	1635
<u>Nickel, raw materials, nickel base alloys</u> (alloys containing 32 % or more nickel in any form) and <u>scrap forms</u> of nickel base alloys covered by this item - See list for exceptions	1661
<u>Nickel wire</u> containing 95% or more nickel, 0.10mm or less in diameter	AE-9
<u>Nickel woven wire mesh</u> composed of wire containing 95% or more nickel and containing 60 or more wires per linear centimeter	AE-10
<u>Night sighting equipment</u> , including infra-red equipment for use with fire control apparatus, and specially designed components, parts, accessories and attachments	ML-5
<u>Niobium (columbium) raw materials, metals, niobium based alloys</u> (See list for specifications) and <u>scrap forms</u> covered by this item	1649
<u>Niobium and/or tantalum steel alloys</u> containing 50% or more iron and 1.5% or more niobium and/or tantalum	1635
<u>Nitrators</u> , continuous types, used in the manufacture of military explosives	1118
<u>Nitric acid, equipment</u> for the conversion of nitrogen tetroxide to nitric acid of 98% concentration or higher	1101
<u>Nitric acid, fuming</u>	ML-8
<u>Nitric oxide and/or nitrogen tetroxide and mixtures thereof, equipment</u> for the concentration of	1101
<u>Nitrobenzene solvent extraction units</u> and plants containing such units	4151

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<u>Nitrocellulose</u> , with nitrogen content over 12.2% and other solid propellant compositions	ML-8
<u>2-Nitrodiphenylamine</u> (a stabilizer for explosives)	1703
<u>Nitrogen tetroxide concentration equipment</u> and equipment for conversion of nitrogen tetroxide to nitric acid (98% concentration or higher)	1101
<u>Nitroglycerine and nitrostarch</u> (military high explosives)	ML-8
<u>Nitroguanidine</u>	1741
<u>P-Nitromethylaniline</u> (a stabilizer for explosives)	1703
<u>Nuclear reactors</u>	AE-36
<u>Octal</u> and similar compounds used as military fuel thickeners	ML-4
<u>Oil derricks, crown and traveling blocks for</u>	4150
<u>Oil well drilling and exploration equipment</u> - See list for specific types covered	4150
<u>Oils and greases, synthetic, lubricating (ester types)</u> - See list for specifications and exceptions	1781
<u>Oscilloscopes (cathode ray)</u> with band width greater than 12 mc per second and specialized parts therefor - See list for other specifications	1584
<u>Oxygen (liquid) converters</u> for aircraft and missile use	ML-10
<u>Panoramic radio receivers</u> and specialized parts therefor - See "radio receivers..." for description	1516
<u>Parachutes</u> (military) used for combat personnel, cargo dropping and aircraft deceleration	ML-10
<u>Paraffin</u> (heavy) in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000	AE-5
<u>Pentaerythritol tetranitrate</u>	1744
<u>Perforating equipment</u> , gun type, for oil well drilling or exploration	4150
<u>Periscopes</u> specially designed for military purposes and components, parts, accessories and attachments	ML-5
<u>Peroxide (hydrogen)</u> , 50% strength and over	1732

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<u>Petrochemicals, equipment</u> (including plants containing such equipment) for the extraction, production, refining, or treatment of	4151
<u>Petroleum based jet fuels</u> containing high energy components having a gross calorific value of not less than 13,000 calories/grammes	1770
<u>Phenol processing units</u>	4151
<u>Photo cells</u> , including photoelectric cells, photo-conductive cells and photo-transistors - See list for specifications	1548
<u>Photoclinometers</u> (oil well drilling and exploitation equipment)	4150
<u>Photo diodes</u> (photo-transistors)	1548
<u>Photographic equipment</u> as follows: high speed cameras and micro-flash equipment - See list for specifications	1585
<u>Photographic equipment designed for military purposes</u> , components and parts- See list for specifications	ML-12
<u>Photographic micro-flash equipment</u> capable of giving a flash of 1/100,000 second or shorter, at a minimum recurrence frequency or 200 flashes per second	1585
<u>Photomultiplier tubes</u> - See list for specifications	1549
<u>Photo transistors</u> (photo-conductive cells including photo-diodes), with a response time constant of 1 milli-second or less measured at the operating temperature of the cell for which the time constant reaches a minimum, and those with a peak sensitivity at a wave length longer than 12,000 Angstrom	1548
<u>Picric acid</u> (trinitrophenol)	1748
<u>Pipe or tubing made of, or lined with, polytetrafluoroethylene (Teflon) or polytrifluorochloroethylene (Kel-F)</u>	1142
<u>Pipe (seamless) and tubing (seamless) made of tantalum</u> - See list for exceptions granted for surgical grade tantalum	1670
<u>Pistols and machine pistols</u> , components and parts	ML-1
<u>Pitchblende and other uranium ores</u> with uranium content exceeding 0.05% by weight	AE-1
<u>Planing machines</u> (profiling and duplicating), n.e.s.	4090

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<u>Planing machines, planer milling machines, and combination planer and planer milling machines with capacity, for work pieces 72 inches (1.80 m) wide and over or 20 feet (6.0 m) long and over</u>	4052
<u>Plants for the production of titanium and/or zirconium metals, and specialized components thereof</u>	1125
<u>Plate (aircraft) working or forming machinery</u>	1081
<u>Platinum clad molybdenum tubing</u>	1658
<u>Plutonium; alloys and compounds containing plutonium</u>	AE-1
<u>Pneumatic tire casings (military) of a kind specially constructed to be bullet proof or run when deflated</u>	ML-6
<u>Point contact diodes</u> suitable for use at frequencies higher than 300 mc/s	1544
<u>Polishing machines</u> specially designed for the manufacture of gas turbine blades	1080
<u>Polymerization units</u> for the processing of lubricants, aviation fuels and components, mineral oil and petrochemicals, and parts therefor	4151
<u>Polymers liquid</u> (not water dispersions) <u>alkyl polysulphide</u> , (a synthetic rubber)	1801
<u>Polytetrafluoroethylene (Teflon) and polytrifluorochloroethylene (Kel-F), pipe or tubing made of or lined with this material</u>	1142
<u>Polytetrafluoroethylene (Teflon) and polytrifluorochloroethylene (Kel-F) valves, cocks, or pressure regulators, and parts therefor</u>	1133
<u>Position, range, and height finders, and spotting instruments</u> specially designed for military purposes, and specially designed components, parts, and accessories	ML-5
<u>Positive ion sources</u> suitable for use in mass spectrographs and mass spectrometers, and capable of handling uranium hexafluoride	AE-24
<u>Potassium nitrate powder and black powders</u>	ML-8
<u>Potentiometers</u> , both linear (including linear induction) and non-linear types - See list for specifications	1568
<u>Pouring rods, moulds and crucibles</u> composed of 97% or more by weight or beryllium oxide, magnesium oxide or zirconium oxide, or composed of zirconium oxide stabilized with lime and/or magnesium oxide	AE-13

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<u>Powders for military explosive and propellant uses, including black powder and potassium nitrate powder</u>	ML-8
<u>Power pumping units (mud and sludge) for oil well drilling and exploration</u>	4150
<u>Precipitation hardening alloy steels containing 4% or more nickel - See interpretative note #4 for specifications</u>	1635
<u>Presses, dehydration, used in the manufacture of military explosives</u>	1118
<u>Presses, extrusion, used for the extrusion of small arms, cannon, and rocket propellants</u>	1118
<u>Presses, mechanical or hydraulic, with total rated pressures of over 5,000 tons</u>	1072
<u>Presses, mechanical and hydraulic, n.e.s., with rated pressures of over 1,000 tons up to, and including, 5,000 tons</u>	4072
<u>Pressure refuellers, pressure refuelling equipment, associated equipment and components designed specially for military aircraft</u>	ML-10
<u>Pressure regulators, valves and cocks, n.e.s., designed to operate at temperatures below -130°C or incorporating 90% or more tantalum, titanium, or zirconium, either separately or combined; 50% or more cobalt, or molybdenum either separately or combined; polytetrafluoroethylene; polytrifluorochloroethylene</u>	1133
<u>Pressurized breathing equipment, partial pressure suits, anti-"G" suits, associated equipment and components suitable for use in military aircraft</u>	ML-10
<u>Primer anvils, brass and bronze fabrications for</u>	ML-16
<u>Primer caps, fabrications for</u>	ML-16
<u>Profiling and duplicating machines, n.e.s. (planing, shaping, milling or grinding), including die-sinking machines</u>	4090
<u>Projectors (military) for smoke, gas and pyrotechnic projectiles and all specifically designed components and parts</u>	ML-2
<u>Propane de-asphalting units</u>	4151
<u>Propellant fuels (military), chemical base, high energy, solid or liquid types</u>	ML-8
<u>Propellants, liquid or solid, for use with arms and ammunition</u>	ML-8

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<u>Pulse modulated altimeters</u> (airborne)	1501
<u>Pulse modulators</u> capable of providing electric impulses of peak power exceeding 150 KW or of a duration less than 1/10 microsecond and pulse-transformers, pulse-forming equipment, and delay lines being specialized parts of such modulators	1514
<u>Pumping (power) units</u> (mud and sludge) and bottom hole pumps for oil well drilling and exploration	4150
<u>Pumps</u> (except vacuum pumps) designed for delivering liquids separately or in combination with solids and/or gases, or designed to move molten metals by electromagnetic forces, or designed for operation below -130°C, or having all flow contact surfaces made of any of the materials specified under this entry	1131
<u>Pumps</u> (except vacuum pumps), delivering liquids separately or in combination with solids and/or gases; pipe valves and cocks, n.e.s., with all flow contact surfaces having 10% or more silicon (as metal alloy); and pumps designed to produce pressures of 450 p.s.i. or more, and having an inlet connection greater than 3 inches, internal pipe size	4131
<u>Pumps, vacuum, all types, n.e.s.</u>	4132
<u>Pyrotechnic projectors</u> (military), and specifically designed components and parts	ML-2
<u>Quartz crystals</u> (worked or unworked) and plates, radio grade only	1587
<u>Radar</u> , for military uses, and specialized components and parts	ML-11
<u>Radar equipment</u> , all airborne types, and specified ground and marine types - See list for specifications	1501
<u>Radar equipment, n.e.s.</u> - See list for specifications	4501
<u>Radar, memory transformers for</u>	1555
<u>Radioactive substances, equipment for the extraction of, centrifugal counter current solvent extractors only</u>	1106
<u>Radioactive warfare materials, and equipment</u> designed and intended for dissemination of and defense against radioactive warfare materials	ML-7
<u>Radio communications equipment, n.e.s.</u> - See list for specifications	4501

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<u>Radio receivers</u> , panoramic (receivers which automatically search a part of the frequency spectrum and indicate the signals received), and specialized parts therefor	1516
<u>Radio relay communication equipment</u> and specialized components and sub-assemblies therefor other than short range and low power links for transmissions between the camera or studio and the television transmitter	1520
<u>Radio spectrum analyzers</u> designed to operate at frequencies in excess of 300 megacycles per second, and specialized parts therefor	1533
<u>Radio testing equipment</u> , n.e.s.	4529
<u>Radio transmitters</u> and components, n.e.s., except radio link and relay equipment - See list for specifications	1517
<u>Radioactive material</u> adapted for use in war to produce casualties in men, animals, or crops; and equipment for the dissemination of such material, and specialized components and parts therefor	ML-7
<u>Radiusing machines</u> specially designed for the making or measuring of gas turbine blades	1080
<u>Railway signalling apparatus</u>	4481
<u>Range, position, and height finders</u> and spotting instruments specially designed for military purposes, and components, parts and accessories therefor	ML-5
<u>Reactors</u> , nuclear	AE-36
<u>Recorders and/or reproducers</u> , magnetic (other than those designed for voice or music), and specialized recording media, parts and components therefor	1572
<u>Rectifying, fractionating and dephlegmating columns</u> for the processing of lubricants, aviation fuels or components, natural or refinery gases, petrochemicals and mineral oils	4151
<u>Refinery gas, equipment</u> (including plants containing such equipment) for the extraction, production, refining or treatment of - See list for specifications	4151
<u>Refractory materials</u> composed of at least 97 percent by weight of beryllium oxide, magnesium oxide, zirconium oxide or zirconium oxide stabilized with lime and/or magnesium oxide; and crucibles, moulds and pouring rods composed of these materials	AE-13

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<u>Refueling equipment</u> designed for use with military aircraft	ML-10
<u>Regulators (pressure), valves and cocks, n.e.s., specially designed to operate at temperature below -130°C, or incorporating materials and parts as specified under "pressure regulators..."</u>	1133
<u>Regulators, continuous automatic types</u> - See "electronic automatic controlling units..." for complete definition	4508
<u>Remote control, guidance and tracking, equipment</u> suitable for use with aircraft (piloted or pilotless) and weapons (guided or unguided)	1518
<u>Repair shops, mobile, military types, and specially designed components and parts</u>	ML-6
<u>Repeater (terminal &amp; intermediate) equipment</u> designed to deliver, carry or receive frequencies higher than 16 kc/s into or in a line communication system	1523
<u>Reproducers and/or recorders, magnetic (other than voice or music) and specialized recording media, parts and components, therefor</u>	1572
<u>Rifles (small arms), and components and parts</u>	ML-1
<u>Rifles (recoilless), and components and parts</u>	ML-2
<u>Resolvers for use in electronic control equipment</u> - See list for specifications	1508
<u>Revolvers (small arms), and components and parts</u>	ML-1
<u>Rock drill bits, rotary, i.e. having cones or sections which rotate freely and independently of the rotation of the body of the bit</u>	1150
<u>Rockets and apparatus, n.e.s., designed for the handling, control, activation, launching, and discharging of rockets and specifically designed components and parts therefor</u>	ML-4
<u>Rocket launchers</u> and specifically designed components and parts	ML-2
<u>Roller bearings, anti-friction, and parts, n.e.s.</u> - See list for specifications	4601
<u>Rolling machines (blade)</u> specially designed for the manufacture of gas turbine blades	1080

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<u>Rolling mills, metal, and specially designed components, parts, accessories, equipment, motors and controls - See list for specifications</u>	1305
<u>Rolling mills, n.e.s.</u>	4305
<u>Root milling and/or grinding machines, and automatic measurement equipment, designed for the making or measuring of gas turbine blades</u>	1080
<u>Rotary rock drill bits, i.e. having cones or sections which rotate freely and independently of the rotation of the body of the bit</u>	1150
<u>Rotor grinders specially designed for the manufacture of jet engines</u>	1080
<u>Rubber, synthetic and intermediates therefor, as follows: (a) alkyl polysulphide liquid (not water dispersions) polymers; (b) fluorinated silicone rubber and other fluorinated elastomeric material and such organic intermediates for their production as contain 10% or more of combined fluorine</u>	1801
<u>Scrambling equipment, other than band scrambling and frequency inversion devices, and similar equipment for use in providing secrecy facilities in communications circuits - See list for specifications</u>	1527
<u>Scribing equipment for use in the manufacture of gas turbine blade aerofoil</u>	1080
<u>Searchlights, power controlled, and control units therefor, designed for military purposes</u>	ML-17
<u>Self-propelled guns, and all specifically designed components and parts</u>	ML-6
<u>Separation equipment, specifically designed for the separation of isotopes of uranium and/or lithium</u>	AE-18
<u>Servo motors (for control equipment), gear-head or plain, designed to operate at more than 300 cycles per second, and/or having a torque-to-inertia ratio of 3,500 radians per second per second or greater</u>	1568
<u>Shaping machines designed for making gas turbine blade aerofoil</u>	1080
<u>Shaping machines (profiling and duplicating), n.e.s.</u>	4090
<u>Sheet, aircraft, working or forming machinery</u>	1081
<u>Shell rotating bands, fabrications for</u>	ML-16

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<u>Shells, machinery, equipment and test gear for the manufacture of -</u> See interpretative note for coverage	ML-18
<u>Ships, new, with decks and platforms especially designed and</u> strengthened to receive weapons	1416
<u>Ships' course indicators</u> (pressure proof) for submarines	1485
<u>Ships</u> - See vessels for additional listings	
<u>Ships</u> (surface or underwater) designed for military offensive or defensive action	ML-9
<u>Signalling apparatus for railway use</u>	4481
<u>Silencers, fire arms (mufflers)</u>	ML-17
<u>Silicon</u> of a purity of 99.9% or more	1757
<u>Silicon purifying and processing equipment</u>	1360
<u>Silicon steels</u> (magnetic) with a core loss of 1 watt per kg. or less at B = 13,000 gaussess and 50 cycles per second or less - See list for other embargo characteristics	1631
<u>Silicone fluids and greases</u> , as follows: (a) halogenated silicone fluids; (b) lubricating greases capable of operating at temperatures of 180°C or higher and having a drop point to 220°C or higher	1755
<u>Silicone rubber</u> , fluorinated, and other fluorinated elastomeric material and such organic intermediates for their production as contain 10% or more of combined fluorine	1801
<u>Sighting television units</u> for use in military aircraft fire control systems and components, accessories, attachments and parts - See interpretative note for further information	ML-5
<u>Small arms</u> (rifles, carbines, revolvers, pistols, machine pistols) and specially designed components and parts	ML-1
<u>Small arms, machinery, equipment and test gear for the manufacture</u> of - See interpretative note for coverage	ML-18
<u>Smoke projectors</u> , military, and specifically designed components and parts	ML-2
<u>Smoke canisters</u> , military, and specially designed components and parts	ML-4
<u>Sodium azide</u> , (detonating or priming composition)	1701

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<u>Solvent extractors, centrifugal counter-current types, designed for extraction of radioactive substances</u>	1106
<u>Solvent processing units, including phenol, duosol, furfural and nitrobenzene solvent extraction and propane de-asphalting units</u>	4151
<u>Sonar devices and components and parts therefor</u>	M1-11
<u>Source materials (positive ion) suitable for use in mass spectrographs and mass spectrometers and capable of handling uranium hexafluoride</u>	AE-24
<u>Spacistors (semi-conductor amplifying devices related to transistors)</u>	1545
<u>Spar (airplane) millers</u>	1051
<u>Spectrographs, (mass) and spectrometers (mass), electromagnetic (ion separators) with analyzer assemblies capable of handling uranium hexafluoride</u>	AE-22
<u>Spindle assemblies, designed or rated for operation at speeds in excess of 80,000 r.p.m.</u>	1016
<u>Spinning lathes, (except those with a spindle drive motor of 25 h.p. or less)</u>	1075
<u>Spotting instruments, range, position and height finders, specially designed for military purposes and specially designed components, parts and accessories</u>	ML-5
<u>Stabilizers for explosives - See list for items specified</u>	1703
<u>Stabilizers (thermal) used as a blending agent for aircraft fuels</u>	1789
<u>Steam boilers, marine, designed to operate at temperatures of 1100°F (593°C) and above</u>	1441
<u>Steel alloys containing 50% or more iron and containing molybdenum (10% or more); molybdenum-chrome alloy, (5% or more molybdenum with 14% or more chrome); cobalt (6% or more) except permanent magnetic materials containing less than 25% cobalt; columbium or tantalum (1.5% or more); nickel bearing steels (32% or more of alloying elements); and precipitation hardening alloy steels containing 4% or more nickel</u>	1635
<u>Steel and alloy castings for guns and arms</u>	ML-16
<u>Steel, electrical (magnetic) and alloys - See list for specifications of physical characteristics required for coverage by embargo</u>	1631

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<u>Steel, rough, forgings</u>	ML-16
<u>Submarine equipment</u> as follows: pressure proof ships course indicators, and specially constructed transmitting magnetic compasses	1485
<u>Submarines, submarine batteries, and submarine nets</u>	ML-9
<u>Sweetie barrels (tumblers)</u> 6 feet and over (diameter), and with a capacity of over 500 pounds, used in the production of military explosives	1118
<u>Synchros for control equipment</u> (control and torque types), receivers, and transmitters, and special instruments having the same characteristics as embargoed synchros - See list for complete description	1508
<u>Synchro-tels</u> (electronic control instruments rated to have the same characteristics as embargoed synchros)	1508
<u>Synthetic film</u> for dielectric use (condenser tissue) of 0.0015 in. (0.038mm) or less in thickness capable of use in condensers covered by IL 1500	1920
<u>Synthetic lubricating oils and greases</u> (ester type) - See "esters of..." for complete description	1781
<u>Synthetic rubber</u> as follows: (a) alkyl polysulphide liquid polymers; (b) fluorinated silicone rubber and other fluorinated elastomeric material and such organic intermediates for their production as contain 10% or more of combined fluorine	1801
<u>Tank destroyers</u> and specifically designed components and parts therefor	ML-2
<u>Tankers</u> designed for speeds of more than 18 knots when in full load condition	1410
<u>Tankers</u> designed for speeds of 18 knots or less when in full load condition	1410
<u>Tanks and vehicles</u> specially designed for military purposes - See list for specific coverage	ML-6
<u>Tantalum and/or niobium steel alloys</u> , containing 50% or more iron and 1.5% or more tantalum and/or niobium	1035
<u>Tantalum compounds</u>	1700

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<u>Tantalum electrolytic capacitors, n.e.s.</u>	1562
<u>Tantalum, raw materials, metals, seamless pipe and tubing, alloys</u> (See list for specifications) and scrap forms covered by this item	1670
<u>Tantalum, titanium, or zirconium valves, cocks and pressure</u> <u>regulators, and parts for same, of 98% purity or greater,</u> <u>separately or combined</u>	1133
<u>Tear gas (except chloropicrine) and equipment for the dissemination</u> <u>thereof</u>	ML-17
<u>Technetrons (semi-conductor amplifying devices related to transistors)</u>	1545
<u>Teflon (polytetrafluoroethylene), pipe and tubing made of or lined</u> <u>with</u>	1142
<u>Teflon (polytetrafluoroethylene) valves, cocks or pressure</u> <u>regulators</u>	1133
<u>Telecommunications cable (multipair), machinery for the manufacture</u> <u>of - See list for specifications</u>	1353
<u>Telecontrol and telemetering equipment suitable for use with</u> <u>aircraft and weapons (guided or unguided)</u>	1518
<u>Telegraph equipment, mechanical, electromechanical or electronic,</u> used to translate written or printed text into electrical waveforms suitable for transmission over communication circuits, and receivers designed for accepting and displaying such waveforms, and specialized components and accessories - See list for specifications	1519
<u>Telegraph terminal transmitting or receiving equipment, multi-channel</u>	1523
<u>Telemetering and telecontrol equipment suitable for use with aircraft</u> <u>and weapons (guided or unguided)</u>	1518
<u>Television sighting units specially designed for military fire</u> <u>control and range finding purposes, and components and parts</u>	ML-5
<u>Temperature resistant electronic components - See list for</u> <u>specifications</u>	1560
<u>Test gear specially designed for the manufacture of embargoed</u> electronic valves, transistors and crystal diodes; and automatic or semi-automatic assembling of all valves, transistors and crystal diodes	1355

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<u>Testing apparatus or equipment (centrifugal) driven by a motor or motors of 400 hp or more; or capable of carrying a payload of 250 lb. or more; or capable of exerting a centrifugal acceleration of 8 or more "g" on a payload of 200 lb. or more</u>	1576
<u>Testing equipment for radio, n.e.s.</u>	4529
<u>Tetra-ethyl-lead (TEL) fluid</u>	4788
<u>Tetrafluoroethylene, polymerized or not, and manufactures wholly thereof</u>	AE-6
<u>Tetranitronaphthalene (military high explosive)</u>	ML-8
<u>Tetryl (military high explosive)</u>	ML-8
<u>Thermal stabilizers used as blending agents for aircraft fuels</u>	1789
<u>Thorium, irradiated, containing uranium 233</u>	AE-1
<u>Thorium minerals, and/or ores, raw and treated, (including residues and tailings) which contain either thorium or uranium or any combination thereof, exceeding 0.05% by weight</u>	AE-1
<u>Thorium (wrought or unwrought), alloys and compounds, excluding alloys containing less than 1.5% thorium, and medicinals</u>	AE-1
<u>Thyratron and modulator gas-discharge tubes rated for continuous operation with peak current and peak voltage exceeding 100 amperes and 9,000 volts at a pulse repetition frequency of 200 or more pulses per second; and hydrogen thyratrons of any rating</u>	1559
<u>Time interval measuring equipment - See list for specifications</u>	1593
<u>Tire casings, pneumatic, of a kind specially constructed to be bullet proof or to run when deflated</u>	ML-6
<u>Titanium metal, sponge and alloys (containing 70% or more titanium) and scrap forms covered by this item</u>	1671
<u>Titanium and/or zirconium production plants, including electric furnaces for the recovery of scrap (except plants for the production of titanium tetrachloride or zirconium tetrachloride), and specialized components thereof</u>	1125
<u>Titanium, tantalum or zirconium valves, cocks and pressure regulators and parts thereof of 90% purity, separately or combined</u>	1133

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<u>TNT</u> (trinitrotoluene), military high explosive	ML-8
<u>Torpedoes</u> (guided or unguided), apparatus and devices for the handling, control, activation, discharging or detection of, and all specifically designed components and parts	ML-4
<u>Torpedo and submarine nets</u>	ML-9
<u>Torque type synchros</u> ; transmitters and differential transmitters rated to have an electrical error of 18 minutes or less when tested by the proportional voltage method, and receivers and differential receivers rated to have an accuracy of 1.5 degrees or less when tested by the dynamic method, and special instruments rated to have the same characteristics	1508
<u>Toxicological agents</u> , including biological, chemical and radioactive materials adapted for use in war to produce casualties in men or animals, or to damage crops, and equipment specially designed for the dissemination of and defense against these materials	ML-7
<u>Tractors, n.e.s.</u> , built to military specifications which differ materially from their normal commercial specifications	1450
<u>Tractors</u> specially designed for towing artillery and specially designed components and parts	ML-6
<u>Tracking, remote control and guidance systems</u> , n.e.s., suitable for use with aircraft (piloted and pilotless) and weapons (guided or unguided)	1518
<u>Tracking devices for missiles</u> and specifically designed components and parts	ML-5
<u>Trailers</u> specifically designed to carry ammunition and all specifically designed components and parts	ML-6
<u>Training equipment</u> , specialized military types, and specifically designed components, parts, attachments, and accessories - See interpretative notes for coverage	ML-14
<u>Trains, armoured railway types</u> , and specifically designed components and parts	ML-6
<u>Transformers, electronic pulse</u> , designed specially as parts for pulse modulators	1514
<u>Transistors</u> and related devices other than germanium (or related semiconductor amplifying devices such as fieldistors, spacistors and technetrons) and specialized parts therefor - See list for specifications on coverage of germanium transistors, also under this entry	1545

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<u>Transistors, n.e.s.</u>	4545
<u>Transistor (embargoed types only) manufacturing machinery, equipment and test gear (including components or sub-assemblies), and automatic and semi-automatic assembling machinery, equipment and test gear for all transistors</u>	1355
<u>Transmitters or transmitter amplifiers, radic, and components and sub-assemblies - See list for specifications</u>	1517
<u>Travelling wave tubes</u>	1558
<u>Trifluoride, chlorine</u>	AE-15
<u>Trichlorotrifluoroethane, (a fluorinated hydrocarbon)</u>	AE-17
<u>Trifluorochloroethylene, polymerized or not, and manufactures wholly thereof</u>	AE-7
<u>Trinitroanisol, Trinitronaphthalene, trinitrophenylusthyl-nitramine (tetryl), TNT, and trinitroxylene (military high explosives)</u>	ML-8
<u>Trinitrophenol (picric acid)</u>	1748
<u>Trucks, lift type, built to military specifications differing materially from their normal commercial specifications</u>	1450
<u>Trucks, military, amphibious types</u>	ML-o
<u>Tube making machinery, equipment and test gear (including components or sub-assemblies) specially designed for the manufacture and/or assembly of embargoed electronic valves, transistors and crystal diodes</u>	1355
<u>Tubes, electronic, and specialized parts - See list for description of specialized tubes covered</u>	1558
<u>Tubes, electronic, (embargoed type only) manufacturing and/or assembling machinery (automatic or semi-automatic), equipment and test gear, including components and sub-assemblies</u>	1355
<u>Tubes, image converters, and electronic storage types - See list for specifications</u>	1555
<u>Tubes, photomultipliers - See list for specifications</u>	1549
<u>Tubes, ruggedized vidicon types - See list for exceptions</u>	1555
<u>Tubes, thyatron and modulator gas-discharge tubes - See "thyratrons..." for specifications</u>	1559

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<u>Tubes, traveling wave types</u>	1558
<u>Tubes, X-ray, flash discharge type</u>	1553
<u>Tubing and pipe made of or lined with polytetrafluoroethylene (Teflon) or polytrifluorochloroethylene (Kel-F)</u>	1142
<u>Tubing and pipe (seamless) made of tantalum - See list for exceptions permitted for surgical grade tantalum</u>	1670
<u>Tubing, molybdenum, or platinum clad molybdenum tubing</u>	1658
<u>Tumblers (sweetie barrels), 6 feet and over in diameter and over 500 pounds product capacity capable of use for the production of military explosives</u>	1118
<u>Tungsten wire, and cut coils, coated (all types), and specified uncoated types - See list for specifications</u>	1668
<u>Turbine blades, gas, machines and equipment for the manufacture and/or measurement of - See list for examples</u>	1080
<u>Turbine disc turning machines specially designed for the manufacture of jet engines</u>	1086
<u>Turning machines, for compressor and turbine discs, specially designed for the manufacture of jet engines</u>	1086
<u>Turrets for vessels of war</u>	ML-9
<u>Ultrasonic wave equipment for communications or detection</u>	1502
<u>Underwater detection devices, (magnetic pressure and acoustic), specially designed for military purposes, and controls, components, parts, accessories and attachments thereof</u>	ML-9
<u>Underwater location apparatus, n.e.s., for detecting or locating objects under water by magnetic or acoustic or ultrasonic methods and specialized components of such apparatus</u>	1510
<u>Underwater sound equipment (military), and components and parts</u>	ML-11
<u>Unsymmetrical dimethyl hydrazine</u>	1731
<u>Uranium enriched in isotope 235 and compounds and alloys artificially enriched in isotope 235; uranium 233, and alloys and compounds containing uranium 233</u>	AE-1
<u>Uranium, wrought or unwrought, including alloys and compounds of natural uranium, having a uranium content exceeding 0.05%, except medicinals</u>	AE-1

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<u>Uranium, irradiated, containing plutonium</u>	AE-1
<u>Uranium minerals, raw and treated, (including residues and tailings) which contain by weight at least 0.05% of uranium or 0.05% uranium and thorium combined</u>	AE-1
<u>Uranium isotopes, equipment especially designed for the separation of</u>	AE-18
<u>Vacuum furnaces, induction type, designed to operate at pressures lower than 0.1 mm. of mercury, and at temperatures higher than 1100°C</u>	1328
<u>Vacuum pumps, all types, n.e.s.</u>	4132
<u>Valves, with bellows seal, wholly made of or lined with aluminum, nickel, or alloy containing 80% or more nickel, either manually or automatically operated</u>	AE-27
<u>Valves, cocks, pressure regulators, n.e.s., specially designed to operate at temperatures below -130°C or incorporating materials and parts as specified under "pressure regulators..."</u>	1133
<u>Valves (electronic) making machinery; equipment and test gear for the manufacture or assembly of electronic valves, transistors and crystal diodes - See list for specifications</u>	1355
<u>Valves - See various entries under tubes</u>	
<u>Vehicles, armed or armored for military purposes</u>	ML-6
<u>Vehicles, automotive, n.e.s., built to military specifications differing significantly from their normal commercial specifications</u>	1450
<u>Vehicles, military, amphibious, and deep water fording types, and specially designed components and parts</u>	ML-6
<u>Vehicles, military type, recovery</u>	ML-6
<u>Vehicles, military types, and components and parts therefor - See list for types covered</u>	ML-6
<u>Vessels - See ships</u>	
<u>Vessels designed for offensive or defensive action, combat types (surface or underwater)</u>	ML-9

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<u>Vessels</u> , as follows: (a) fishing vessels and hulls designed for speeds of 17 knots or over when in full load condition; (b) sea-going vessels, including coasters, and hulls therefor, n.e.s, designed for speeds of 20 knots or over when in full load condition; (c) vessels with hulls and propulsion machinery made wholly or primarily of non-magnetic materials; (d) vessels incorporating any Munition List items or other embargoed items, or arrangements for the demagnetization of the vessel	1416
<u>Vessels of war</u> (surface or underwater), and accessories, attachments, components and parts for these vessels, such as turrets, naval gun mounts, submarine batteries and catapults	ML-9
<u>Vidicon-type tubes, ruggedized</u>	1555
<u>Warships</u> , whether or not converted to non-military use, and regardless of current state of repair or operating condition	1415
<u>Waveguides, electromagnetic</u> , and components therefor - See list for specifications	1537
<u>Well logging instruments and equipment for oil well drilling</u>	4150
<u>Whaling factories</u>	4411
<u>Wire, molybdenum</u> - See list for exceptions	1658
<u>Wire, nickel</u> , composed of wire containing 95% or more nickel, 0.10 mm or less	AE-9
<u>Wire mesh, woven</u> , composed of wire containing 95% or more nickel and containing 60 or more wires per linear centimeter	AE-10
<u>Wire, tungsten</u> , all coated types and specified uncoated types - See list for specifications	1668
<u>X-ray tubes, flash-discharge type</u>	1553
<u>Zirconium, tantalum or titanium valves, cocks and pressure regulators</u> , and parts therefor, of 90 percent purity separately or in combination	1133
<u>Zirconium metal, alloys</u> containing more than 50% zirconium by weight, and <u>compounds</u> , in which the ratio of hafnium content to zirconium content is less than one part to 500 parts by weight and manufactures wholly thereof	AE-8
<u>Zirconium oxide</u> , or zirconium oxide stabilized with lime and/or magnesium oxide (97% or more by weight) <u>for use in refractories, and crucibles, moulds and pouring rods composed of these materials</u>	AE-13

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Zirconium and/or titanium production installations, including  
electric furnaces for the recovery of scrap, and specialized  
components thereof (except plants for the production of  
zirconium tetrachloride or titanium tetrachloride)

1125

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